

REMARKS

Initially, Applicants would like to express their appreciation to Examiner Fronda and his supervisor, Examiner Nashed, for the courtesy extended to Angela Dallas and Gary Connell during the telephone interview of August 21, 2001. During this interview, the issues under 35 U.S.C. § 103 were discussed in this and related application U.S. Application Serial No. 09/115,475. With regard to the format of the claims as currently amended, the Examiner indicated that the prior art rejections would be overcome. Applicants have amended all of the claims in the present application in a manner that is believed to place the claims in a condition for allowance.

Claim Amendments:

Applicants have amended the claims in the manner discussed with the Examiner in the August 21 interview. These amendments are believed to clarify the claimed subject matter, and to place the claims in a condition for allowance. Specifically, the claims have been amended to more particularly describe the invention and to address the Examiner's concerns regarding the definiteness of what genetic modifications are encompassed by the claims. Support for new Claim 40, part (i), is in original Claims 1 and 8. Support for part (ii) to Claim 40 is in original Claim 1 and the specification, page 15, lines 19-34; page 17, line 23 to page 18, line 18; and page 33, line 29 to page 34, line 23, for example. The remainder of the amendments are intended to modify the claims to correspond to the amendment to Claim 40, and support for the dependent claims is found in the original claims. Other independent claims have been modified as necessary to be similar to Claim 40. Applicants note that data supporting the phrase "glucosamine-6-phosphate synthase" as used in the claims will be provided in the next few weeks by supplemental response and a declaration under 37 CFR 1.132.

Rejection of Claims 1-6, 8, 14-16, 18 and 21 Under 35 U.S.C. § 103:

The Examiner has maintained the rejection of Claims 1-6, 8, 14-16, 18 and 21 under 35 U.S.C. § 103, contending that these claims are unpatentable over Dutka-Malen et al. in view of O'Shea et al for the reasons of record. The Examiner contends that the organism of Dutka-Malen

et al. inherently accumulates glucosamine which is recovered by the centrifugation of the extract, and that O'Shea et al. teach a chromatography method for isolating glucosamine.

Applicants again traverse the rejection for the reasons of record. Applicants' agent reiterated Applicants' position to the Examiners in the August 21 telephone interview. Applicants have amended the claims in a manner that is believed to address any remaining concerns that the Examiner may have regarding the claims. Therefore, the Examiner is respectfully requested to withdraw the rejection of Claims 1-6, 8, 14-16, 18 and 21 under 35 U.S.C. § 103.

Rejection of Claims 7 and 17 Under 35 U.S.C. § 103:

The Examiner has maintained the rejection of Claims 7 and 17 under 35 U.S.C. § 103, contending that these claims are unpatentable over Plumbridge et al. in view of Joyce et al. and O'Shea et al. for the reasons of record. The Examiner contends that Joyce et al. teach a method to delete specific genes from *E. coli*, that one would have been motivated to further delete the enzymes involved in amino sugar metabolism in the *E. coli* of Dutka-Malen et al. (it is noted that Dutka-Malen et al. has not been cited in this combination), and that O'Shea et al. teach a chromatography method for isolating glucosamine.

Applicants again traverse the rejection for the reasons of record. Applicants' agent reiterated Applicants' position to the Examiners in the August 21 telephone interview. Applicants have amended the claims in a manner that is believed to address any remaining concerns that the Examiner may have regarding the claims. Therefore, the Examiner is respectfully requested to withdraw the rejection of Claims 7 and 17 under 35 U.S.C. § 103.

Rejection of Claim 9 Under 35 U.S.C. § 103:

The Examiner has maintained the rejection of Claim 9 under 35 U.S.C. § 103, contending that this claim is unpatentable over Dutka-Malen et al. in view of Balbas et al. and O'Shea et al. for the reasons of record. The Examiner contends that the organism of Dutka-Malen et al. inherently accumulates glucosamine which is recovered by the centrifugation of the extract, that Balbas et al. teach a vector for chromosomal integration of cloned DNA into the genome of the host, and that O'Shea et al. teach a chromatography method for isolating glucosamine.

Applicants again traverse the rejection for the reasons of record. Applicants' agent reiterated Applicants' position to the Examiners in the August 21 telephone interview. Applicants have amended the claims in a manner that is believed to address any remaining concerns that the Examiner may have regarding the claims. Therefore, the Examiner is respectfully requested to withdraw the rejection of Claim 9 under 35 U.S.C. § 103.

Rejection of Claims 10 and 19 Under 35 U.S.C. § 103:

The Examiner has maintained the rejection of Claims 10 and 19 under 35 U.S.C. §103, contending that these claims are unpatentable over Dutka-Malen et al. in view of O'Shea et al. for the reasons of record. The Examiner contends that the organism of Dutka-Malen et al. inherently accumulates glucosamine which is recovered by the centrifugation of the extract, and that O'Shea et al. teach a chromatography method for isolating glucosamine.

Applicants again traverse the rejection for the reasons of record. Applicants' agent reiterated Applicants' position to the Examiners in the August 21 telephone interview. Applicants have amended the claims in a manner that is believed to address any remaining concerns that the Examiner may have regarding the claims. Therefore, the Examiner is respectfully requested to withdraw the rejection of Claims 10 and 19 under 35 U.S.C. § 103.

Rejection of Claims 11-13 and 20 Under 35 U.S.C. § 103:

The Examiner has maintained the rejection of Claims 11-13 and 20 under 35 U.S.C. §103, contending that these claims are unpatentable over Dutka-Malen et al. in view of Plumbridge, Joyce et al. and O'Shea et al. for the reasons of record. The Examiner contends that the organism of Dutka-Malen et al. inherently accumulates glucosamine which is recovered by the centrifugation of the extract, that Joyce et al. teach deletion of a gene from *E. coli*, that Plumbridge et al. teach that deletion of any one or a combination of genes is expected to result in a decrease in enzyme activity, and that O'Shea et al. teach a chromatography method for isolating glucosamine.

Applicants again traverse the rejection for the reasons of record. Applicants' agent reiterated Applicants' position to the Examiners in the August 21 telephone interview. Applicants have amended the claims in a manner that is believed to address any remaining concerns that the

Examiner may have regarding the claims. Therefore, the Examiner is respectfully requested to withdraw the rejection of Claims 11-13 and 20 under 35 U.S.C. § 103.

Rejection of Claims 22, 23, 27-29 and 33 Under 35 U.S.C. § 103:

The Examiner has maintained the rejection of Claims 22, 23, 27-29 and 33 under 35 U.S.C. § 103, contending that these claims are unpatentable over Dutka-Malen et al. in view of Balbas et al. and O'Shea et al. for the reasons of record. The Examiner contends that the organism of Dutka-Malen et al. inherently accumulates glucosamine which is recovered by the centrifugation of the extract, that Balbas et al. teach a vector for chromosomal integration of cloned DNA into the genome of the host, and that O'Shea et al. teach a chromatography method for isolating glucosamine.

Applicants again traverse the rejection for the reasons of record. Applicants' agent reiterated Applicants' position to the Examiners in the August 21 telephone interview. Applicants have amended the claims in a manner that is believed to address any remaining concerns that the Examiner may have regarding the claims. Therefore, the Examiner is respectfully requested to withdraw the rejection of Claims 22, 23, 27-29 and 33 under 35 U.S.C. § 103.

Rejection of Claims 24-26 and 30-32 Under 35 U.S.C. § 103:

The Examiner has maintained the rejection of Claims 24-26 and 30-32 under 35 U.S.C. § 103, contending that these claims are unpatentable over Dutka-Malen et al. in view of Balbas et al., Plumbridge et al., and Joyce et al. for the reasons of record. The Examiner contends that the organism of Dutka-Malen et al. inherently accumulates glucosamine which is recovered by the centrifugation of the extract, that Balbas et al. teach a vector for chromosomal integration of cloned DNA into the genome of the host, that Joyce et al. teach deletion of a gene from *E. coli*, and that Plumbridge et al. teach that deletion of any one or a combination of genes is expected to result in a decrease in enzyme activity.

Applicants again traverse the rejection for the reasons of record. Applicants' agent reiterated Applicants' position to the Examiners in the August 21 telephone interview. Applicants have amended the claims in a manner that is believed to address any remaining concerns that the

Examiner may have regarding the claims. Therefore, the Examiner is respectfully requested to withdraw the rejection of Claims 24-26 and 30-32 under 35 U.S.C. § 103.

Rejection of Claims 34-39 Under 35 U.S.C. § 103:

The Examiner has maintained the rejection of Claims 34-39 under 35 U.S.C. §103, contending that these claims are unpatentable over Dutka-Malen et al. in view of Balbas et al., Plumbridge et al., Joyce et al. and O'Shea et al. for the reasons of record. The Examiner contends that the organism of Dutka-Malen et al. inherently accumulates glucosamine which is recovered by the centrifugation of the extract, that Balbas et al. teach a vector for chromosomal integration of cloned DNA into the genome of the host, that Joyce et al. teach deletion of a gene from *E. coli*, that Plumbridge et al. teach that deletion of any one or a combination of genes is expected to result in a decrease in enzyme activity, and that O'Shea et al. teach a chromatography method for isolating glucosamine.

Applicants again traverse the rejection for the reasons of record. Applicants' agent reiterated Applicants' position to the Examiners in the August 21 telephone interview. Applicants have amended the claims in a manner that is believed to address any remaining concerns that the Examiner may have regarding the claims. Therefore, the Examiner is respectfully requested to withdraw the rejection of Claims 34-39 under 35 U.S.C. § 103.

Applicants have tried to respond to all of the Examiner's concerns as set forth in the July 17 Office Action and submit that the claims are in a condition for allowance. In the event that the Examiner has any questions regarding Applicants' position, the Examiner is invited to contact the below-named agent at (303) 863-9700.

Respectfully submitted,

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Date: November 19, 2001